

**To:** William Simon[wsimon@frontier.net]; 'Peter Butler'[butlerpeter2@gmail.com]; 'Richardson, Lisa'[lrichard@blm.gov]; 'Brent Lewis'[b1lewis@blm.gov]; Wall, Dan[wall.dan@epa.gov]; Schmittdiel, Paula[Schmittdiel.Paula@epa.gov]; Way, Steven[way.steven@epa.gov]; Kirstin.Brown@state.co.us[Kirstin.Brown@state.co.us]; fpope@bresnan.net[fpope@bresnan.net]; 'Barb Horn'[Barb.Horn@state.co.us]  
**Cc:** Larry Perino[Larry.Perino@kinross.com]  
**From:** Fearn Engineering  
**Sent:** Tue 2/10/2015 2:08:55 PM  
**Subject:** RE: Extra sampling for March/April?

I think Peter and Bill have very good points. Idea is to find out what is really going on.  
Steve

-----Original Message-----

**From:** William Simon  
**Sent:** Feb 10, 2015 5:02 AM  
**To:** 'Peter Butler' , ""Richardson, Lisa"" , 'Brent Lewis' , ""Wall, Dan"" , ""Schmittdiel, Paula"" , ""Way, Steven"" , 'Steve Fearn' , Kirstin.Brown@state.co.us, fpope@bresnan.net, 'Barb Horn'  
**Subject:** RE: Extra sampling for March/April?

Peter makes some good points. I only mentioned Eureka because of recent renewed interest in the Eureka area tailings; also my own interest in results of bulkheading the Terry and Ransom tunnels. The T4 location suggestion seems appropriate in relationship to both tailings locations and the area of springs and inflow from Boulder Creek.

Lisa, could you check on the A68 gauge. It may already be thawed out in which case we could actually get good flow measurements and thus calculate loads.

Bill

**From:** Peter Butler [mailto:butlerpeter2@gmail.com]  
**Sent:** Monday, February 09, 2015 9:38 PM  
**To:** 'William Simon'; 'Richardson, Lisa'; 'Brent Lewis'; 'Wall, Dan'; 'Schmittdiel, Paula'; 'Way, Steven'; 'Steve Fearn'; Kirstin.Brown@state.co.us; fpope@bresnan.net; 'Barb Horn'  
**Subject:** RE: Extra sampling for March/April?

A couple of thoughts:

The time period when zinc, cadmium, and manganese have the highest concentrations and are the most toxic when compared to table value standards is March and April at A68. Although we don't have flow measurements at A68 during the peak concentrations in the weekly data collected last year, it appears that about 85% to 95% of the metal load entered

the Animas River between Howardsville and A68 on the days when peak concentrations were seen. Thus, during these spring months, it doesn't seem to make sense to bracket Eureka or any of the upstream tributaries.

The weekly samples taken at A68 were not very different than the monthly samples taken in other years in March and April. Although snowpack was low last year, the concentrations at A68 were typical. My thinking is that (provided we get some more snow) taking weekly samples at Howardsville and A68 will give us pretty much the same results as it did last year, and we really won't learn much.

If we take weekly samples, we should drill down on the potential source areas. Since Arrastra is a north facing drainage, I doubt it is much of a contributor of metals in March and April. If samples are to be taken at Howardsville and A68 again, I would propose we take samples somewhere below tailings ponds 1 and 2, but above 4 to see if one half or the other of this segment is a bigger contributor of metals. We won't have flows at this mid-point, but the concentrations will hopefully tell us quite a bit.

Looking at Kimball's paper, I would propose his designated T4 location which is where a stream just above the power plant runs into the Animas. I don't know how accessible this point is, but Kimball used in April. I also don't know the land ownership. There are springs with high concentrations of metals both upstream and downstream of this location. See attached diagram.

Peter Butler

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From: William Simon [<mailto:wsimon@frontier.net>]

Sent: Monday, February 09, 2015 12:01 PM

To: 'Richardson, Lisa'; 'Brent Lewis'; 'Wall, Dan'; 'Schmittziel, Paula'; 'Way, Steven'; 'Peter Butler'; 'Steve Fearn'; [Kirstin.Brown@state.co.us](mailto:Kirstin.Brown@state.co.us); [fpope@bresnan.net](mailto:fpope@bresnan.net); 'Barb Horn'

Subject: RE: Extra sampling for March/April?

From: Richardson, Lisa [<mailto:lrichard@blm.gov>]  
Sent: Monday, February 09, 2015 11:12 AM  
To: Brent Lewis; Wall, Dan; Schmittiel, Paula; Way, Steven; Peter Butler; [wsimon@frontier.net](mailto:wsimon@frontier.net); Steve Fearn; [Kirstin.Brown@state.co.us](mailto:Kirstin.Brown@state.co.us); [fpope@bresnan.net](mailto:fpope@bresnan.net); Barb Horn  
Subject: Extra sampling for March/April?

Happy Monday, All,

Wondering if there is interest/\$ out there for replicating the same extra data that Buck and I worked on last year to catch the flush and pre-flush. We took many additional Riverwatch samples (including diurnal) at A55 and A68 for 6 weeks in March and April, and I believe Dan made the graphs from that data. We are coming up on the time when we need to plan this if we do want it. Buck and I have talked about it and we are happy to grab and process the samples. Peter Butler and I have also talked about it and he is not so sure it is really necessary but is thinking on it.

Questions:

~Sippers should capture this same info, assuming they work correctly and are there for retrieval. But, what if they don't? WHAT IF?

~Is there \$ for this? I WOULD THINK EPA WILL BE THE BENEFACTOR. WILL THEY FUND IT?

~Is there additional data that could make this more meaningful? Happy to get it. ONE COULD ALWAYS BE MORE THOROUGH. IT WOULD BE NICE TO BRACKET EUREKA GULCH FROM ANIMAS INFLOWS TO EUREKA BUT THEN ONE WOULD NEED TO BRACKET MAGIE, MINIE, AND CUNNINGHAM TOO. THEN ONE COULD ATTRIBUTE ANY INCREASE TO THOSE SOURCES OR THE TAILINGS WHICH ARE THROUGHOUT THE FLOODPLAIN. GETS COMPLICATED AND EXPENSIVE. PREVIOUS HIGH/LOW SAMPLING HAS DONE THIS AS HAS PREVIOUS TRACERS. WHAT DOES EPA WANT AND NEED? WE CERTAINLY DON'T WANT TO DUPLICATE WHAT THEY FEEL THEY MUST DO ANYWAY.

~If it would be more helpful for data to meet EPA critiria and EPA wants to pay for it, could we use same process I am using for Q&A samples?

~We are on a serious warming trend. We only had one cold snap this year at the very earliest part of the winter. Is pre-flush going to happen earlier this year? Who knows but worth thinking about. IT LOOKS TO ME THAT SUBLIMATION HAS BEATEN OUT RUNOFF THIS YEAR—UNLESS WE GET GOBS OF SPRING SNOW. IF WE DID GET SPRING SNOW IT WOULD BE MORE LIKE A RUNOFF EVENT RATHER THAN SPRING HIGH FLOW.

So I am good with doing these samples or not but I did want all to ponder. PONDERING

Thanks.

Lisa

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